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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,821	05/31/2007	Yuichiro Ogawa	128594	6525

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EXAMINER	
ROGERS, MARTIN K	
ART UNIT	**PAPER NUMBER**
1791	

NOTIFICATION DATE	DELIVERY MODE
07/08/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/585,821	OGAWA, YUICHIRO	
	Examiner	Art Unit	
	MARTIN ROGERS	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 May 2010* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazunori (Japanese Kokai 2000-27310) in view of Ogawa (WO 03/089258), Panning (WO 2003/0028915), Hirai et al. (WO 02/078939) and optionally Trares et al. (USP 5524688) and Welch (USP 522814). Note that US Pre-Grant Publication 2006/0011282 is taken by the examiner to be an English language equivalent of WO 03/089258 and is referred to below to make the following rejections. Note that US Pre-Grant Publication 2005/0028915 is taken by the examiner to be an English language equivalent of WO 2003/0028915 and is referred to below to make the following rejections. Note that Pre-Grant Publication 2004/0013754 is an English language equivalent of WO 2002/078939 and is referred to below to make the following rejections.

In regards to claim 1, Kazunori discloses a run flat tire (Figure 1) with an inner carcass (Figure 1: 61) turned up over a bead (Figure 1: 8) and an outer carcass (Figure 1: 63), both made of cords ([0006]). Kazunori does not disclose manufacturing the tire according to the steps required by Applicant. Kazunori never expressly discloses that

construction method used to create the tire, suggesting to one of ordinary skill in the art at the time of the invention that any well known construction method would be suitable.

Ogawa discloses that it is well known in the art to manufacture a tire by taking a toroidal core (Figure 10: 8) and sequentially layering up the components of the green tire on this core (For example, [0042]). The carcass ply is created by feeding a carcass cord in a meridian direction of the core and folding back the carcass cords at each side portion of the cord (Figure 10: 3), which has the added benefit of increasing their anchoring force ([0043]) when they are folded up over a bead (Figure 10: 0015) as well as creating a uniform product ([0010]). Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to use the construction method of Ogawa to create a tire with the geometry disclosed by Kazunori because the construction method of Ogawa is a well known process for creating a tire. Additionally, the method of Ogawa creates a tire with high anchoring force of the carcass wrapped around the bead as well as uniform properties. It is the examiner's position that one of ordinary skill would find it obvious to use the same method to create both the inner and outer carcasses and would therefore also create the outer carcass ply required by Kazunori by feeding a carcass cord in the meridian direction of the core and folding it back at the side portions. The examiner further notes that in the tire of Kazunori, the outer carcass ply is applied after the inner carcass ply is folded up over the bead.

Although Kazunori discloses that there be an inner and out carcass, it is never disclosed that there be a skim rubber between the two carcasses. However, in

Kazunori, the dimensions of the cross-sectional profile of the tire are carefully controlled.

Panning provides evidence that when forming an inner cord carcass by winding a continuous cord across a support, it is well known to also create the outer carcass cord layer using this same method (Figure 1b). Panning further discloses that when using such a construction technique to create a tire with an inner and outer carcass, it is beneficial to provide a rubber layer between the two cord layers ([0071]). One of ordinary skill would therefore find it obvious to supply a skim rubber to the inner carcass cord created by the above combination prior to applying the outer carcass cord for the because it is well known in the art to provide a rubber mix between the two carcass layers when both layers are being created by the claimed process steps (as disclosed by Panning). The examiner notes that In Figure 11a of Panning, rubber mix is layered onto the mandrel in the form of a skim. Figure 1 of Ogawa also discloses that rubber layers are in the form of rubber skims.

Additionally, Trares suggests to one of ordinary skill in the art that applying sheets of rubber between adjacent cords will prevent abrasion due to the friction between the cord layers (Column 4, lines 50-54). One of ordinary skill applying the teachings of Trares to the process of the above combination would therefore find it obvious to apply a rubber sheet to the inner carcass layer prior to creating the outer carcass layer for the benefit of preventing abrasion between the layers of cords (as disclosed by Trares).

Additionally, Welch discloses that when laying two layers of cords in a tire, it is well known to apply a skim of rubber between the two layers for the benefit of prevent fretting of the cords (Column 1, line 50 through Column 2, lines 51-55) and that the use of a rubber layer between cords is functionally equivalent to encapsulating the cords in rubber 9Column 2, lines 51-55). Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to provide a skim of rubber between the two cord layers of the above combination for the benefit of preventing fretting (as disclosed by Welch) and because this is functionally equivalent to surrounding the cords in rubber (as disclosed by Welch).

The above combination does not disclose that the skim rubber is applied by spiral or helical winding of a rubber strip.

Hirai discloses that by creating components or layers of a green tire by directly winding a ribbon in a helical pattern ([0017]), the need for a premade components is eliminated which reduces process manpower and time needed for production (as well as storage space) and the need for additional equipment is eliminated ([0002]). Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to form the rubber layer of the above combination by helically winding a strip (as disclosed by Hirai) for the benefit of reducing manpower and time requirements, storage requirements for the premade rubber ply, and additional equipment requirements for forming the ply. The examiner additionally notes that Hirai discloses creating a skim of rubber with the strip winding method ([0081]).

In regards to claim 2, Figure 1 of Kazunori further discloses that the outer carcass overlap the turned up portion of the inner carcass.

In regards to claim 3, Panning further discloses that the rubber mixture be applied over the entire region between the two carcass layers. Also, one applying the teachings of Trares or Welch to the tire produced by the combination of references would find it obvious to protect the turned up portion of inner carcass because it is susceptible to abrasion from the adjacent radially inner portion of the outer tire carcass.

In regards to claim 4, Kazunori further discloses applying a crescent shaped rubber onto the inner surface of the inner carcass play (Figure 1: 71).

In regards to claim 6, Panning further discloses that the rubber mixture be applied over the entire region between the two carcass layers. Also, one applying the teachings of Trares or Welch to the tire produced by the combination of references would find it obvious to protect the turned up portion of inner carcass because it is susceptible to abrasion from the adjacent radially inner portion of the outer tire carcass.

In regards to claim 7, Kazunori further discloses applying a crescent shaped rubber onto the inner surface of the inner carcass play (Figure 1: 71).

In regards to claim 8, Kazunori further discloses applying a crescent shaped rubber onto the inner surface of the inner carcass play (Figure 1: 71).

In regards to claim 9, Kazunori further discloses applying a crescent shaped rubber onto the inner surface of the inner carcass play (Figure 1: 71).

Claim 5 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Kazunori (Japanese Kokai 2000-27310) in view of Ogawa (WO 03/089258), Panning (WO 2003/0028915), Hirai et al. (WO 02/078939) and optionally Trares et al. (USP 5524688) and Welch (USP 522814) as applied to claims 1-4 and 6-9 above, and further in view of Willard (USP 5511599), Adachi (USP 5361820) and Kanenari et al. (USP 6397913). Note that US Pre-Grant Publication 2006/0011282 is taken by the examiner to be an English language equivalent of WO 03/089258 and is referred to below to make the following rejections. Note that US Pre-Grant Publication 2005/0028915 is taken by the examiner to be an English language equivalent of WO 2003/0028915 and is referred to below to make the following rejections. Note that Pre-Grant Publication 2004/0013754 is an English language equivalent of WO 2002/078939 and is referred to below to make the following rejections.

In regards to claims 5 and 10-16, Kazunori further discloses the use of a crescent shaped reinforcing member. Although the combination of references require both a skim

of rubber and a crescent reinforcing member between the inner and outer carcass layers, there is no suggestion in these references as to how this can be accomplished.

One of ordinary skill in the art would therefore turn to the teachings of Willard and Adachi, which disclose that it is well known in the art to provide a rubber skim and a crescent reinforcing layer between two carcasses by replacing areas of the skim with the reinforcing member (Willard Column 9, lines 12-15 and Figure 2) (Adachi Figure 2: 107, 109). Therefore, one of ordinary skill would find it obvious to replace the areas of the skim which need to be reinforced with the crescent member (as disclosed by Willard) because this is a well known method of incorporating a skim and crescent member between two carcass plies.

Additionally, Kanenari suggests to one of ordinary skill in the art that laminating a skim and a crescent reinforcing member together it functionally equivalent to replacing areas of the skim with the reinforcing member (Figure 3a-6). Therefore, one of ordinary skill would have found it obvious to replace the skim with the crescent reinforcing member in the zones that need to be reinforced because this would be considered functionally equivalent to simply providing both a reinforcing member and a skim of rubber in the same region (as disclosed by Kanenari).

Response to Arguments

2. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN ROGERS whose telephone number is 571-270-7002. The examiner can normally be reached on Monday through Thursday, 7:30 to 5:00, and every other Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Rogers/

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791